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عنوان مقاله:

A Survey on Exposure Parameters Variation due to Aging in Radiology Devices

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خلاصه مقاله:

The inevitable use of medical imaging examinations and lack of a suitable alternative lead to the need to control and minimize the amount of radiation from such artificial medical sources. To assess the relation between exposure parameters and lifetime of radiology devices, quality control tests were carried out on ۱۳ radiology devices in ۱۱ general hospitals. In this study, a barracuda dosimeter, SE-۴۳۱۳۷ Sweden, was calibrated to measure and record the quantities of kVp, mAs and exposure parameters. In all the devices using applying the minimum and maximum values of kVp, the minimum and maximum values of the internal resistances were calculated. The lowest mR/mA for the device C was observed at a flow rate of ۲۰۰ mA (equal to ۲,۴۲۵), while the highest value was for the device A (۲) at a current intensity of ۲۰۰ mA (equal to ۱۴.۶۲۵). By increasing the age of the device, the output of the device is reduced. Therefore, to compensate for this decrease in the output, higher exposure conditions are usually applied to the device, which can greatly increase the damage to the device.

کلمات کلیدی:

quality control, Radiology Devices, Aging, Internal Resistance, Hospitals

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